

**ANALYTICAL RESULTS**

Prepared for:

SUN: Aquaterra Tech.  
PO Box 744  
West Chester PA 19381

610-431-5733

Prepared by:

Lancaster Laboratories  
2425 New Holland Pike  
Lancaster, PA 17605-2425**SAMPLE GROUP**

The sample group for this submittal is 992792. Samples arrived at the laboratory on Thursday, June 08, 2006. The PO# for this group is SUNOCO PHILLY REFINER.

**Client Description**B117-060706 Grab Water Sample  
B46-060706 Grab Water Sample  
B115-060706 Grab Water Sample  
B123-060706 Grab Water Sample  
B92-060706 Grab Water Sample**Lancaster Labs Number**4789401  
4789402  
4789403  
4789404  
4789405ELECTRONIC      SUN: Aquaterra Tech.  
COPY TO  
ELECTRONIC      Langan  
COPY TO  
ELECTRONIC      Langan  
COPY TO

Attn: Brad Spancake

Attn: Jason Hanna

Attn: Joseph Catricks

Questions? Contact your Client Services Representative  
Rebecca J Shettel at (717) 656-2300

Respectfully Submitted,



Robin C. Runkle  
Senior Specialist



# Analysis Report

2425 New Holland Pike, PO Box 12425, Lancaster, PA 17605-2425 • 717-656-2300 Fax: 717-656-2681 • www.lancasterlabs.com

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Lancaster Laboratories Sample No. WW 4789401

B117-060706 Grab Water Sample  
SUN: Philadelphia Refinery AOI-6

Collected: 06/07/2006 12:00 by MBS

Account Number: 10132

Submitted: 06/08/2006 17:08  
Reported: 06/27/2006 at 10:06  
Discard: 07/28/2006

SUN: Aquaterra Tech.  
PO Box 744  
West Chester PA 19381

11706

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation*	As Received Method Detection Limit	Units	Dilution Factor
06035	Lead	7439-92-1	< 0.0010	0.0010	0.000047	mg/l	1
07879	EDB in Wastewater						
01087	Ethylene dibromide	106-93-4	< 0.029	0.029	0.0096	ug/l	1
07805	PAHs in Water by GC/MS						
03947	Naphthalene	91-20-3	< 5.	5.	1.	ug/l	1
03956	Fluorene	86-73-7	< 5.	5.	1.	ug/l	1
03963	Phenanthrene	85-01-8	< 5.	5.	1.	ug/l	1
03967	Pyrene	129-00-0	< 5.	5.	1.	ug/l	1
03971	Chrysene	218-01-9	< 5.	5.	1.	ug/l	1
02302	UST-Waters by 8260B						
02010	Methyl Tertiary Butyl Ether	1634-04-4	< 5.	5.	0.5	ug/l	1
05401	Benzene	71-43-2	< 5.	5.	0.5	ug/l	1
05402	1,2-Dichloroethane	107-06-2	< 5.	5.	1.	ug/l	1
05407	Toluene	108-88-3	< 5.	5.	0.7	ug/l	1
05415	Ethylbenzene	100-41-4	< 5.	5.	0.8	ug/l	1
05420	Isopropylbenzene	98-82-8	< 5.	5.	1.	ug/l	1
06310	Xylene (Total)	1330-20-7	16.	5.	0.8	ug/l	1

Commonwealth of Pennsylvania Lab Certification No. 36-037

This sample was filtered in the lab for dissolved metals.

Trip blank vials were not received by the laboratory for this sample group.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

## Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
06035	Lead	SW-846 6020	1	06/23/2006 15:55	Jayme E Curet	1
07879	EDB in Wastewater	SW-846 8011	1	06/13/2006 10:01	James H Place	1
07805	PAHs in Water by GC/MS	SW-846 8270C	1	06/14/2006 03:08	William T Parker	1

\*=This limit was used in the evaluation of the final result



# Analysis Report

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Lancaster Laboratories Sample No. WW 4789401

B117-060706 Grab Water Sample

SUN: Philadelphia Refinery AOI-6

Collected: 06/07/2006 12:00 by MBS

Account Number: 10132

Submitted: 06/08/2006 17:08

SUN: Aquaterra Tech.

Reported: 06/27/2006 at 10:06

PO Box 744

Discard: 07/28/2006

West Chester PA 19381

11706

02302	UST-Waters by 8260B	SW-846 8260B	1	06/14/2006 09:12	Seth J Good	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	06/14/2006 09:12	Seth J Good	1
06050	ICP/MS SW-846 Water	SW-846 3010A modified	2	06/22/2006 19:33	James L Mertz	1
07786	EDB Extraction	SW-846 8011	1	06/12/2006 15:40	Kerrie A Greenfield	1
07807	BNA Water Extraction	SW-846 3510C	1	06/10/2006 11:45	Mark P Mastropietro	1

\*=This limit was used in the evaluation of the final result

**Lancaster Laboratories Sample No. WW 4789402**

**B46-060706 Grab Water Sample**  
**SUN: Philadelphia Refinery AOI-6**

Collected: 06/07/2006 12:40 by MBS

Account Number: 10132

Submitted: 06/08/2006 17:08  
 Reported: 06/27/2006 at 10:06  
 Discard: 07/28/2006

SUN: Aquaterra Tech.  
 PO Box 744  
 West Chester PA 19381

B4606

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation*	As Received Method Detection Limit	Units	Dilution Factor
06035	Lead	7439-92-1	< 0.0010	0.0010	0.000047	mg/l	1
07879	EDB in Wastewater						
01087	Ethylene dibromide	106-93-4	< 0.029	0.029	0.0096	ug/l	1
07805	PAHs in Water by GC/MS						
03947	Naphthalene	91-20-3	< 5.	5.	1.	ug/l	1
03956	Fluorene	86-73-7	< 5.	5.	1.	ug/l	1
03963	Phenanthrene	85-01-8	< 5.	5.	1.	ug/l	1
03967	Pyrene	129-00-0	< 5.	5.	1.	ug/l	1
03971	Chrysene	218-01-9	< 5.	5.	1.	ug/l	1
02302	UST-Waters by 8260B						
02010	Methyl Tertiary Butyl Ether	1634-04-4	< 5.	5.	0.5	ug/l	1
05401	Benzene	71-43-2	< 5.	5.	0.5	ug/l	1
05402	1,2-Dichloroethane	107-06-2	< 5.	5.	1.	ug/l	1
05407	Toluene	108-88-3	< 5.	5.	0.7	ug/l	1
05415	Ethylbenzene	100-41-4	< 5.	5.	0.8	ug/l	1
05420	Isopropylbenzene	98-82-8	< 5.	5.	1.	ug/l	1
06310	Xylene (Total)	1330-20-7	< 5.	5.	0.8	ug/l	1

Commonwealth of Pennsylvania Lab Certification No. 36-037

This sample was filtered in the lab for dissolved metals.

Trip blank vials were not received by the laboratory for this sample group.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

## Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
06035	Lead	SW-846 6020	1	06/23/2006 15:57	Jayme E Curet	1
07879	EDB in Wastewater	SW-846 8011	1	06/13/2006 11:01	James H Place	1
07805	PAHs in Water by GC/MS	SW-846 8270C	1	06/14/2006 04:01	William T Parker	1

\*=This limit was used in the evaluation of the final result



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Lancaster Laboratories Sample No. WW 4789402

B46-060706 Grab Water Sample

SUN: Philadelphia Refinery AOI-6

Collected: 06/07/2006 12:40 by MBS

Account Number: 10132

Submitted: 06/08/2006 17:08

SUN: Aquaterra Tech.

Reported: 06/27/2006 at 10:06

PO Box 744

Discard: 07/28/2006

West Chester PA 19381

B4606

02302	UST-Waters by 8260B	SW-846 8260B	1	06/14/2006 09:59	Seth J Good	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	06/14/2006 09:59	Seth J Good	1
06050	ICP/MS SW-846 Water	SW-846 3010A modified	2	06/22/2006 19:33	James L Mertz	1
07786	EDB Extraction	SW-846 8011	1	06/12/2006 15:40	Kerrie A Greenfield	1
07807	BNA Water Extraction	SW-846 3510C	1	06/10/2006 11:45	Mark P Mastropietro	1

\*=This limit was used in the evaluation of the final result



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Lancaster Laboratories Sample No. WW 4789403

B115-060706 Grab Water Sample  
SUN: Philadelphia Refinery AOI-6

Collected: 06/07/2006 12:55 by MBS

Account Number: 10132

Submitted: 06/08/2006 17:08  
Reported: 06/27/2006 at 10:06  
Discard: 07/28/2006

SUN: Aquaterra Tech.  
PO Box 744  
West Chester PA 19381

B1156

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation*	As Received Method Detection Limit	Units	Dilution Factor
06035	Lead	7439-92-1	< 0.0010	0.0010	0.000047	mg/l	1
07879	EDB in Wastewater						
01087	Ethylene dibromide	106-93-4	< 0.028	0.028	0.0095	ug/l	1
07805	PAHs in Water by GC/MS						
03947	Naphthalene	91-20-3	< 5.	5.	1.	ug/l	1
03956	Fluorene	86-73-7	< 5.	5.	1.	ug/l	1
03963	Phenanthrene	85-01-8	< 5.	5.	1.	ug/l	1
03967	Pyrene	129-00-0	< 5.	5.	1.	ug/l	1
03971	Chrysene	218-01-9	< 5.	5.	1.	ug/l	1
02302	UST-Waters by 8260B						
02010	Methyl Tertiary Butyl Ether	1634-04-4	< 5.	5.	0.5	ug/l	1
05401	Benzene	71-43-2	< 5.	5.	0.5	ug/l	1
05402	1,2-Dichloroethane	107-06-2	< 5.	5.	1.	ug/l	1
05407	Toluene	108-88-3	< 5.	5.	0.7	ug/l	1
05415	Ethylbenzene	100-41-4	< 5.	5.	0.8	ug/l	1
05420	Isopropylbenzene	98-82-8	< 5.	5.	1.	ug/l	1
06310	Xylene (Total)	1330-20-7	< 5.	5.	0.8	ug/l	1

Commonwealth of Pennsylvania Lab Certification No. 36-037

This sample was filtered in the lab for dissolved metals.

Trip blank vials were not received by the laboratory for this sample group.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

## Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
06035	Lead	SW-846 6020	1	06/23/2006 16:00	Jayme E Curet	1
07879	EDB in Wastewater	SW-846 8011	1	06/13/2006 12:01	James H Place	1
07805	PAHs in Water by GC/MS	SW-846 8270C	1	06/16/2006 21:00	William T Parker	1

\*=This limit was used in the evaluation of the final result



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Lancaster Laboratories Sample No. WW 4789403

B115-060706 Grab Water Sample

SUN: Philadelphia Refinery AOI-6

Collected: 06/07/2006 12:55 by MBS

Account Number: 10132

Submitted: 06/08/2006 17:08

SUN: Aquaterra Tech.

Reported: 06/27/2006 at 10:06

PO Box 744

Discard: 07/28/2006

West Chester PA 19381

B1156

02302	UST-Waters by 8260B	SW-846 8260B	1	06/14/2006 10:23	Seth J Good	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	06/14/2006 10:23	Seth J Good	1
06050	ICP/MS SW-846 Water	SW-846 3010A modified	2	06/22/2006 19:33	James L Mertz	1
07786	EDB Extraction	SW-846 8011	1	06/12/2006 15:40	Kerrie A Greenfield	1
07807	BNA Water Extraction	SW-846 3510C	1	06/13/2006 07:30	Danette S Cavalier	1

\*=This limit was used in the evaluation of the final result





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Lancaster Laboratories Sample No. WW 4789404

B123-060706 Grab Water Sample  
SUN: Philadelphia Refinery AOI-6

Collected: 06/07/2006 13:15 by MBS

Account Number: 10132

Submitted: 06/08/2006 17:08  
Reported: 06/27/2006 at 10:06  
Discard: 07/28/2006

SUN: Aquaterra Tech.  
PO Box 744  
West Chester PA 19381

B1236

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation*	As Received Method Detection Limit	Units	Dilution Factor
06035	Lead	7439-92-1	< 0.0010	0.0010	0.000047	mg/l	1
07879	EDB in Wastewater						
01087	Ethylene dibromide	106-93-4	< 0.029	0.029	0.0095	ug/l	1
07805	PAHs in Water by GC/MS						
03947	Naphthalene	91-20-3	< 5.	5.	1.	ug/l	1
03956	Fluorene	86-73-7	45.	5.	1.	ug/l	1
03963	Phenanthrene	85-01-8	17.	5.	1.	ug/l	1
03967	Pyrene	129-00-0	7.	5.	1.	ug/l	1
03971	Chrysene	218-01-9	< 5.	5.	1.	ug/l	1
02302	UST-Waters by 8260B						
02010	Methyl Tertiary Butyl Ether	1634-04-4	< 5.	5.	0.5	ug/l	1
05401	Benzene	71-43-2	< 5.	5.	0.5	ug/l	1
05402	1,2-Dichloroethane	107-06-2	< 5.	5.	1.	ug/l	1
05407	Toluene	108-88-3	< 5.	5.	0.7	ug/l	1
05415	Ethylbenzene	100-41-4	< 5.	5.	0.8	ug/l	1
05420	Isopropylbenzene	98-82-8	38.	5.	1.	ug/l	1
06310	Xylene (Total)	1330-20-7	< 5.	5.	0.8	ug/l	1

Commonwealth of Pennsylvania Lab Certification No. 36-037

This sample was filtered in the lab for dissolved metals.

Trip blank vials were not received by the laboratory for this sample group.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

## Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
06035	Lead	SW-846 6020	1	06/23/2006 16:02	Jayme E Curet	1
07879	EDB in Wastewater	SW-846 8011	1	06/13/2006 12:31	James H Place	1
07805	PAHs in Water by GC/MS	SW-846 8270C	1	06/14/2006 04:53	William T Parker	1

\*=This limit was used in the evaluation of the final result



# Analysis Report

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Lancaster Laboratories Sample No. WW 4789404

B123-060706 Grab Water Sample

SUN: Philadelphia Refinery AOI-6

Collected: 06/07/2006 13:15 by MBS

Account Number: 10132

Submitted: 06/08/2006 17:08

SUN: Aquaterra Tech.

Reported: 06/27/2006 at 10:06

PO Box 744

Discard: 07/28/2006

West Chester PA 19381

B1236

02302	UST-Waters by 8260B	SW-846 8260B	1	06/14/2006 10:46	Seth J Good	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	06/14/2006 10:46	Seth J Good	1
06050	ICP/MS SW-846 Water	SW-846 3010A modified	2	06/22/2006 19:33	James L Mertz	1
07786	EDB Extraction	SW-846 8011	1	06/12/2006 15:40	Kerrie A Greenfield	1
07807	BNA Water Extraction	SW-846 3510C	1	06/10/2006 11:45	Mark P Mastropietro	1

\*=This limit was used in the evaluation of the final result

Lancaster Laboratories Sample No. WW 4789405

B92-060706 Grab Water Sample  
SUN: Philadelphia Refinery AOI-6

Collected: 06/07/2006 13:30 by MBS

Account Number: 10132

Submitted: 06/08/2006 17:08  
Reported: 06/27/2006 at 10:06  
Discard: 07/28/2006

SUN: Aquaterra Tech.  
PO Box 744  
West Chester PA 19381

B9206

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Limit of Quantitation*	As Received Method Detection Limit	Units	Dilution Factor
06035	Lead	7439-92-1	< 0.0010	0.0010	0.000047	mg/l	1
07879	EDB in Wastewater						
01087	Ethylene dibromide The surrogate data is outside the QC limits. Results from the reextraction are within the limits. The hold time had expired prior to the reextraction so all results are reported from the original extract. Similar results were obtained in both extracts.	106-93-4	< 0.028	0.028	0.0094	ug/l	1
07805	PAHs in Water by GC/MS						
03947	Naphthalene	91-20-3	< 5.	5.	1.	ug/l	1
03956	Fluorene	86-73-7	24.	5.	1.	ug/l	1
03963	Phenanthrene	85-01-8	15.	5.	1.	ug/l	1
03967	Pyrene	129-00-0	< 5.	5.	1.	ug/l	1
03971	Chrysene	218-01-9	< 5.	5.	1.	ug/l	1
02302	UST-Waters by 8260B						
02010	Methyl Tertiary Butyl Ether	1634-04-4	< 5.	5.	0.5	ug/l	1
05401	Benzene	71-43-2	< 5.	5.	0.5	ug/l	1
05402	1,2-Dichloroethane	107-06-2	< 5.	5.	1.	ug/l	1
05407	Toluene	108-88-3	< 5.	5.	0.7	ug/l	1
05415	Ethylbenzene	100-41-4	< 5.	5.	0.8	ug/l	1
05420	Isopropylbenzene	98-82-8	7.	5.	1.	ug/l	1
06310	Xylene (Total)	1330-20-7	< 5.	5.	0.8	ug/l	1

Commonwealth of Pennsylvania Lab Certification No. 36-037  
This sample was filtered in the lab for dissolved metals.  
Trip blank vials were not received by the laboratory for this sample group.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

## Laboratory Chronicle

\*=This limit was used in the evaluation of the final result

**Lancaster Laboratories Sample No. WW 4789405**

**B92-060706 Grab Water Sample**  
**SUN: Philadelphia Refinery AOI-6**

Collected: 06/07/2006 13:30 by MBS

Account Number: 10132

Submitted: 06/08/2006 17:08  
 Reported: 06/27/2006 at 10:06  
 Discard: 07/28/2006

SUN: Aquaterra Tech.  
 PO Box 744  
 West Chester PA 19381

B9206

CAT		Analysis				Dilution
No.	Analysis Name	Method	Trial#	Date and Time	Analyst	Factor
06035	Lead	SW-846 6020	1	06/23/2006 16:04	Jayme E Curet	1
07879	EDB in Wastewater	SW-846 8011	1	06/13/2006 13:02	James H Place	1
07805	PAHs in Water by GC/MS	SW-846 8270C	1	06/14/2006 05:46	William T Parker	1
02302	UST-Waters by 8260B	SW-846 8260B	1	06/14/2006 11:10	Seth J Good	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	06/14/2006 11:10	Seth J Good	1
06050	ICP/MS SW-846 Water	SW-846 3010A modified	2	06/22/2006 19:33	James L Mertz	1
07786	EDB Extraction	SW-846 8011	1	06/12/2006 15:40	Kerrie A Greenfield	1
07807	BNA Water Extraction	SW-846 3510C	1	06/10/2006 11:45	Mark P Mastropietro	1

## Quality Control Summary

Client Name: SUN: Aquaterra Tech.  
Reported: 06/27/06 at 10:06 AM

Group Number: 992792

Matrix QC may not be reported if site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

### Laboratory Compliance Quality Control

Analysis Name	Blank Result	Blank LOQ**	Blank MDL	Report Units	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Batch number: 06160WAI026	Sample number(s): 4789401-4789402, 4789404-4789405								
Naphthalene	< 5.	5.	1.	ug/l	90	91	70-104	1	30
Fluorene	< 5.	5.	1.	ug/l	98	98	61-116	0	30
Phenanthrene	< 5.	5.	1.	ug/l	90	90	68-111	0	30
Pyrene	< 5.	5.	1.	ug/l	100	96	68-114	4	30
Chrysene	< 5.	5.	1.	ug/l	93	90	70-111	3	30
Batch number: 061630013A	Sample number(s): 4789401-4789405								
Ethylene dibromide	< 0.030	0.030	0.010	ug/l	100	96	60-140	4	20
Batch number: 06163WAG026	Sample number(s): 4789403								
Naphthalene	< 5.	5.	1.	ug/l	85	90	70-104	5	30
Fluorene	< 5.	5.	1.	ug/l	98	97	61-116	1	30
Phenanthrene	< 5.	5.	1.	ug/l	92	91	68-111	1	30
Pyrene	< 5.	5.	1.	ug/l	90	95	68-114	5	30
Chrysene	< 5.	5.	1.	ug/l	88	92	70-111	5	30
Batch number: 061736050001A	Sample number(s): 4789401-4789405								
Lead	< 0.0010	0.0010	0.00004	mg/l	101		86-115		
Batch number: T061651AA	Sample number(s): 4789401-4789405								
Methyl Tertiary Butyl Ether	< 5.	5.	0.5	ug/l	97	98	73-119	1	30
Benzene	< 5.	5.	0.5	ug/l	108	104	85-117	4	30
1,2-Dichloroethane	< 5.	5.	1.	ug/l	107	107	77-132	0	30
Toluene	< 5.	5.	0.7	ug/l	97	96	85-115	0	30
Ethylbenzene	< 5.	5.	0.8	ug/l	91	90	82-119	1	30
Isopropylbenzene	< 5.	5.	1.	ug/l	93	94	80-120	1	30
Xylene (Total)	< 5.	5.	0.8	ug/l	95	94	83-113	1	30

### Sample Matrix Quality Control

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike  
Background (BKG) = the sample used in conjunction with the duplicate

Analysis Name	MS %REC	MSD %REC	MS/MSD Limits	RPD	BKG	DUP	DUP	Dup RPD
Batch number: 061630013A	Sample number(s): 4789401-4789405 UNSPK: 4789401 BKG: 4789402							
Ethylene dibromide	48*		65-135		< 0.029	< 0.028	0 (1)	30
Batch number: 061736050001A	Sample number(s): 4789401-4789405 UNSPK: P790724 BKG: P790724							
Lead	94	91	78-120	2	20	0.0171	0.0168	2
Batch number: T061651AA	Sample number(s): 4789401-4789405 UNSPK: 4789401							

\*- Outside of specification

\*\* This limit was used in the evaluation of the final result for the blank

- (1) The result for one or both determinations was less than five times the LOQ.
- (2) The background result was more than four times the spike added.

## Quality Control Summary

Client Name: SUN: Aquaterra Tech.  
Reported: 06/27/06 at 10:06 AM

Group Number: 992792

### Sample Matrix Quality Control

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike  
Background (BKG) = the sample used in conjunction with the duplicate

	MS	MSD	MS/MSD	RPD	BKG	DUP	DUP	Dup RPD
<u>Analysis Name</u>	<u>%REC</u>	<u>%REC</u>	<u>Limits</u>	<u>RPD</u>	<u>MAX</u>	<u>Conc</u>	<u>Conc</u>	<u>Max</u>
Methyl Tertiary Butyl Ether	99		69-127					
Benzene	112		83-128					
1,2-Dichloroethane	113		70-143					
Toluene	105		83-127					
Ethylbenzene	100		82-129					
Isopropylbenzene	106		81-130					
Xylene (Total)	103		82-130					

### Surrogate Quality Control

Surrogate recoveries which are outside of the QC window are confirmed unless attributed to dilution or otherwise noted on the Analysis Report.

Analysis Name: PAHs in Water by GC/MS  
Batch number: 06160WAI026

	Nitrobenzene-d5	2-Fluorobiphenyl	Terphenyl-d14
4789401	90	87	94
4789402	88	91	96
4789404	88	89	93
4789405	88	86	94
Blank	94	91	98
LCS	95	89	104
LCSD	92	90	101
Limits:	51-123	64-112	52-151

Analysis Name: EDB in Wastewater  
Batch number: 061630013A

	1,1,2,2-Tetrachloroethane
4789401	55
4789402	79
4789403	65
4789404	42*
4789405	33*
Blank	109
DUP	48*
LCS	116
LCSD	107
MS	49*
Limits:	52-120

Analysis Name: PAHs in Water by GC/MS  
Batch number: 06163WAG026

	Nitrobenzene-d5	2-Fluorobiphenyl	Terphenyl-d14
--	-----------------	------------------	---------------

\*- Outside of specification

\*\* - This limit was used in the evaluation of the final result for the blank

- (1) The result for one or both determinations was less than five times the LOQ.
- (2) The background result was more than four times the spike added.

## Quality Control Summary

Client Name: SUN: Aquaterra Tech.  
Reported: 06/27/06 at 10:06 AM

Group Number: 992792

### Surrogate Quality Control

4789403	82	87	94
Blank	84	88	95
LCS	83	92	94
LCSD	86	92	101

Limits:	51-123	64-112	52-151
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Analysis Name: UST-Waters by 8260B

Batch number: T061651AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
4789401	90	82	86	88
4789402	87	80	86	88
4789403	88	81	85	86
4789404	89	81	84	90
4789405	88	80	87	91
Blank	90	81	86	88
LCS	88	84	87	88
LCSD	87	83	86	88
MS	87	85	87	92

Limits:	80-116	77-113	80-113	78-113
---------	--------	--------	--------	--------

\*- Outside of specification

\*\* - This limit was used in the evaluation of the final result for the blank

- (1) The result for one or both determinations was less than five times the LOQ.
- (2) The background result was more than four times the spike added.

# Analysis Request/ Environmental Services Chain of Custody



For Lancaster Laboratories use only  
 Acct. # 10132 Group # 99272 Sample # 478940-05  
 COC # 0124055

Please print. Instructions on reverse side correspond with circled numbers.

<b>1</b> Client: <u>Sun-Aguatec</u> Acct. #: _____ Project Name: <u>Sun-Philadelphia Refinery</u> PWSID #: <u>AOI-6</u> Project Manager: <u>B. Spence</u> P.O. #: _____ Sampler: <u>M. B. Spence</u> Quote #: _____ Name of state where samples were collected: <u>PA</u>		<b>2</b> <table border="1"> <thead> <tr> <th>Sample ID</th> <th>Weight (g)</th> <th>Time</th> <th>Relinquished by</th> <th>Date</th> <th>Time</th> <th>Received by</th> <th>Date</th> <th>Time</th> <th>Remarks</th> </tr> </thead> <tbody> <tr> <td>B117-060706</td> <td>1200</td> <td>6/7/06</td> <td>X</td> <td>6/7/06</td> <td>1200</td> <td>Aguatec Bridge</td> <td>6/7/06</td> <td>1200</td> <td>Fluorene provide</td> </tr> <tr> <td>B416-060706</td> <td>1240</td> <td>6/7/06</td> <td>X</td> <td>6/7/06</td> <td>1240</td> <td>Aguatec Bridge</td> <td>6/7/06</td> <td>1240</td> <td>Equis EDD</td> </tr> <tr> <td>B115-060706</td> <td>1255</td> <td>6/7/06</td> <td>X</td> <td>6/7/06</td> <td>1255</td> <td>Aguatec Bridge</td> <td>6/7/06</td> <td>1255</td> <td>Dissolved Pb samples</td> </tr> <tr> <td>B123-060706</td> <td>1315</td> <td>6/7/06</td> <td>X</td> <td>6/7/06</td> <td>1315</td> <td>Aguatec Bridge</td> <td>6/7/06</td> <td>1315</td> <td>one unfiltered / unpreserved</td> </tr> <tr> <td>B92-060706</td> <td>1330</td> <td>6/7/06</td> <td>X</td> <td>6/7/06</td> <td>1330</td> <td>Aguatec Bridge</td> <td>6/7/06</td> <td>1330</td> <td></td> </tr> </tbody> </table>		Sample ID	Weight (g)	Time	Relinquished by	Date	Time	Received by	Date	Time	Remarks	B117-060706	1200	6/7/06	X	6/7/06	1200	Aguatec Bridge	6/7/06	1200	Fluorene provide	B416-060706	1240	6/7/06	X	6/7/06	1240	Aguatec Bridge	6/7/06	1240	Equis EDD	B115-060706	1255	6/7/06	X	6/7/06	1255	Aguatec Bridge	6/7/06	1255	Dissolved Pb samples	B123-060706	1315	6/7/06	X	6/7/06	1315	Aguatec Bridge	6/7/06	1315	one unfiltered / unpreserved	B92-060706	1330	6/7/06	X	6/7/06	1330	Aguatec Bridge	6/7/06	1330		<b>3</b>		<b>4</b>		<b>5</b>		<b>6</b>	
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<b>7</b> Turnaround Time Requested (TAT) (please circle) Normal <input checked="" type="radio"/> Rush <input type="radio"/> (Rush TAT is subject to Lancaster Laboratories approval and surcharge.) Date results are needed: _____ Rush results requested by (please circle): _____ Phone _____ Fax _____ E-mail _____ Phone #: _____ Fax #: _____ E-mail address: _____										<b>8</b> Data Package Options (please circle if required) QC Summary Type VI (Raw Data) SDG Complete? Yes <input checked="" type="radio"/> No <input type="radio"/> Type I (Tier I) GLP Site-specific QC required? Yes <input checked="" type="radio"/> No <input type="radio"/> Type II (Tier II) Other (If yes, indicate QC sample and submit triplicate volume.) Type III (NJ Red. Del.) Internal Chain of Custody required? Yes <input checked="" type="radio"/> No <input type="radio"/> Type IV (CLP)																																																													



## Lancaster Laboratories

### Explanation of Symbols and Abbreviations

*The following defines common symbols and abbreviations used in reporting technical data:*

<b>N.D.</b>	none detected	<b>BMQL</b>	Below Minimum Quantitation Level
<b>TNTC</b>	Too Numerous To Count	<b>MPN</b>	Most Probable Number
<b>IU</b>	International Units	<b>CP Units</b>	cobalt-chloroplatinate units
<b>umhos/cm</b>	micromhos/cm	<b>NTU</b>	nephelometric turbidity units
<b>C</b>	degrees Celsius	<b>F</b>	degrees Fahrenheit
<b>Cal</b>	(diet) calories	<b>lb.</b>	pound(s)
<b>meq</b>	milliequivalents	<b>kg</b>	kilogram(s)
<b>g</b>	gram(s)	<b>mg</b>	milligram(s)
<b>ug</b>	microgram(s)	<b>l</b>	liter(s)
<b>ml</b>	milliliter(s)	<b>ul</b>	microliter(s)
<b>m3</b>	cubic meter(s)	<b>fib &gt;5 um/ml</b>	fibers greater than 5 microns in length per ml
<b>&lt;</b>	less than – The number following the sign is the <u>limit of quantitation</u> , the smallest amount of analyte which can be reliably determined using this specific test.		
<b>&gt;</b>	greater than		
<b>ppm</b>	parts per million – One ppm is equivalent to one milligram per kilogram (mg/kg), or one gram per million grams. For aqueous liquids, ppm is usually taken to be equivalent to milligrams per liter (mg/l), because one liter of water has a weight very close to a kilogram. For gases or vapors, one ppm is equivalent to one microliter of gas per liter of gas.		
<b>ppb</b>	parts per billion		
<b>Dry weight basis</b>	Results printed under this heading have been adjusted for moisture content. This increases the analyte weight concentration to approximate the value present in a similar sample without moisture.		

*U.S. EPA data qualifiers:*

#### Organic Qualifiers

<b>A</b>	TIC is a possible aldol-condensation product
<b>B</b>	Analyte was also detected in the blank
<b>C</b>	Pesticide result confirmed by GC/MS
<b>D</b>	Compound quantitated on a diluted sample
<b>E</b>	Concentration exceeds the calibration range of the instrument
<b>J</b>	Estimated value
<b>N</b>	Presumptive evidence of a compound (TICs only)
<b>P</b>	Concentration difference between primary and confirmation columns >25%
<b>U</b>	Compound was not detected
<b>X,Y,Z</b>	Defined in case narrative

#### Inorganic Qualifiers

<b>B</b>	Value is <CRDL, but ≥IDL
<b>E</b>	Estimated due to interference
<b>M</b>	Duplicate injection precision not met
<b>N</b>	Spike amount not within control limits
<b>S</b>	Method of standard additions (MSA) used for calculation
<b>U</b>	Compound was not detected
<b>W</b>	Post digestion spike out of control limits
<b>*</b>	Duplicate analysis not within control limits
<b>+</b>	Correlation coefficient for MSA <0.995

Analytical test results for methods listed on the laboratories' accreditation scope meet all requirements of NELAC unless otherwise noted under the individual analysis.

Tests results relate only to the sample tested. Clients should be aware that a critical step in a chemical or microbiological analysis is the collection of the sample. Unless the sample analyzed is truly representative of the bulk of material involved, the test results will be meaningless. If you have questions regarding the proper techniques of collecting samples, please contact us. We cannot be held responsible for sample integrity, however, unless sampling has been performed by a member of our staff. This report shall not be reproduced except in full, without the written approval of the laboratory.

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